

**REMARKS**

Claims 1-14 are pending in this application. By the Office Action, claims 6-13 have been withdrawn from consideration by the Examiner.

**I. Interview**

The courtesies extended to Applicants' representative by Examiner Lee at the interview held December 7 and Examiners Lee and Ryan at the interview held December 16, are appreciated. As acknowledged during the December 16 interview, the rejection under 35 U.S.C. §103(a) over U.S. Patent No. 5,679,481 to Takahashi et al. ("Takahashi") in view of U.S. Patent Application Publication No. 2002/0192148 to Kweon et al. ("Kweon") has been withdrawn. See Interview Summary mailed December 22, 2009. Additional reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the interview.

**II. Rejections under 35 U.S.C. §103(a)****A. Lampe-Onnerud**

Claims 1-5 and 14 are rejected under 35 U.S.C. §103(a) as having been obvious over U.S. Patent Application Publication No. 2002/0192552 to Lampe-Onnerud et al. (Lampe-Onnerud). Applicants respectfully traverse the rejection.

The claimed ranges do not overlap or lie inside ranges disclosed by the applied references and thus the Office Action has failed to satisfy its burden of presenting a *prima facie* case of obviousness. The substitution suggested by the Office Action on page 3 results in a compound having a chemical formula of  $\text{Li}_1\text{Ni}_{0.87}\text{Co}_{0.08}\text{Mg}_{0.01}\text{Mn}_{0.05}\text{O}_2$ . In this formula  $a = 1$ ,  $b = 0.87$ ,  $c = 0.08$ ,  $d = 0.01$  and  $e = 0.05$ . Thus,  $d/(b+c) = 0.0105$ , which falls outside the claimed range of independent claim 1. Additionally,  $b+c = 0.95$ , which does not satisfy the limitation of claim 1 that  $b+c = 1$ . Lampe-Onnerud fails to teach, suggest or establish any reason or rationale to modify the composition disclosed therein to achieve the specific

combination of features recited in claim 1. Accordingly, no *prima facie* case of obviousness exists with respect to claim 1.

Applicants also note that the composite oxides recited in claim 1 and disclosed in Lampe-Onnerud are expressed in a different manner. In claim 1 the composite oxide is expressed as a ratio between (i.e., mole ratio) the number of moles of each component and the sum of the number of moles of Ni and the number of moles of Co. In contrast, the Lampe-Onnerud expresses the amount of each component contained in the composite oxide as a ratio between the number of moles (i.e., mole ratio) of each component and the sum of the number of moles of Ni, the number of moles of Co, and the number of moles of component B. The Examiner's analysis in the Interview summary fails to take into account these differences. See Interview Summary mailed December 22, 2009.

Furthermore, Applicants respectfully submit that the analysis set forth in the December 16 interview summary regarding the general formula of Lampe-Onnerud and the feature " $b+c = 1$ " is also flawed because the analysis does not result in a composition in which each and every feature of claim 1 is achieved nor does it adequately contribute to establishing any sufficient reason or rationale to provide the each and every feature recited in claim 1.

Specifically, the manipulation of the general formula of Lampe-Onnerud set forth in the interview summary sets " $z_1$ " to zero, which also stipulates that no "B" (i.e., boron, aluminum, gallium, manganese, titanium, vanadium, and zirconium) is present. For example, the analysis set forth in the interview summary asserts that: " $b = 1-y_1-z_1$ " and " $c = y_1$ ;" therefore, " $b+c$ " equals " $1-y_1-z_1+y_1$ ," which equals " $1-z_1$ ," which equals 1 because " $z_1$ " is zero. See Interview Summary mailed December 22, 2009. However, as discussed above, when  $z_1$  is zero in the general formula of Lampe-Onnerud, there is no "B" or aluminum. A composition without aluminum does not read on each and every feature of claim 1, much less

the combination of features recited in claim 1, where in the formula  $\text{Li}_a\text{Ni}_b\text{Co}_c\text{Ba}_d\text{Al}_e\text{O}_x$ , Al is required to be present because " $e/(b+c)$ : 0.01 to 0.1" and " $b+c = 1$ ." Thus, the analysis set forth in the interview summary does not result in a composition that would include each and every feature of claim 1, much less the combination of features recited in claim 1 and thus fails to cure the above deficiencies of Lampe-Onnerud.

Furthermore, Applicants again respectfully submit that the presently claimed invention displays *unexpected results* of improved safety performance and discharge capacity with respect to the incorporation of barium within the claimed range. The Office Action at page 6 points out that Comparative Example 3 does not contain aluminum. However, as discussed above, Applicants respectfully submit that the manipulation the general formula of Lampe-Onnerud set forth in the Interview Summary mailed December 22, 2009, which sets " $z1$ " to 0, clearly designates that no "B" or aluminum is present. Thus, Comparative Example 3 of Table 2 of the present specification is representative of a composition encompassed by Lampe-Onnerud's ranges (and the discussion set forth in the Interview Summary) but is outside Applicants' claimed range with respect to barium and aluminum. In Comparative Example 3, appropriate thermal stability cannot be obtained and the discharge capacity is also degraded.

Accordingly, Applicants respectfully submit that the claimed ranges (1) are critical, and (2) demonstrate the presently claimed compounds do *not* have the same properties as other species in the broad genus disclosed by Lampe-Onnerud. Such a showing rebuts the Office Action's allegation that "one skilled in the art would have expected them to have the same properties." See Office Action, page 6.

In addition, Comparative Example 5 of Table 2 does not contain any barium (i.e. " $d$ " = 0). In the absence of barium, the cycle performance, the safety performance and the discharge capacity all proved inferior to the claimed invention (emphasis added).

Lampe-Onnerud nowhere teaches these specific unexpected results with respect to incorporation of barium within the claimed range, and nowhere teaches or suggests that the elements and content amounts could or should be specifically selected to provide these beneficial results. Therefore, these unexpected results show that the presently claimed values for the variables "a" through "x" encompass a critical range of barium, that would not have been predictable or expected over the much broader range of compounds taught by Lampe-Onnerud.

Additionally, for the above reasons and those set forth in the Request for Reconsideration filed May 26, 2009, Applicants assert that the Office Action fails to resolve the *Graham* inquiries and the Office Action's analysis is flawed because it fails to clearly articulate the appropriate findings of fact within the *Graham* framework, such as those set forth in MPEP §2144.08(II)(A)(4). The above omissions amount to a failure to articulate a *prima facie* case of unpatentability and the burden to rebut this "rejection" has not yet shifted to the Applicants.

Accordingly, for at least the reasons set forth above, Lampe-Onnerud fails to teach, suggest, or establish any reason or rationale to provide the combination of features as recited in independent claim 1 and thus would not have rendered obvious claim 1. Claims 2-5 and 14 depend from claim 1 and, thus, also would not have been rendered obvious by Lampe-Onnerud.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

**B. Takahashi in view of Kweon**

Claims 1-5 and 14 are rejected under 35 U.S.C. §103(a) over U.S. Patent No. 5,679,481 to Takahashi et al. ("Takahashi") in view of U.S. Patent Application Publication No. 2002/0192148 to Kweon et al. ("Kweon"). Applicants respectfully traverse the rejection.

As acknowledged during the December 16 interview, the rejection under 35 U.S.C. §103(a) over Takahashi in view of Kweon has been withdrawn. See Interview Summary mailed December 22, 2009.

Accordingly, claim 1 would not have been rendered obvious by Takahashi and Kweon. Claims 2-5 and 14 depend from claim 1 and, thus, also would not have been rendered obvious by Takahashi and Kweon. Accordingly, withdrawal of the rejection is respectfully requested.

### **III. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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